

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 322.—VOL. XI.]

London : Saturday, October 23, 1841.

[PRICE 6D.

**MONMOUTHSHIRE.—VALUABLE MINERAL PROPERTY FOR SALE.**  
**T**O BE SOLD, BY AUCTION, by Mr. D. DAVIES, at the White Lion, in the town of Pontypool, on Tuesday, the 26th day of October, the following very VALUABLE COAL AND IRON MINERAL PROPERTY, called Blaenfrwydwrach, consisting of fifty-two acres of freehold property, lying and being in the parish of Treveithian, containing all the measures, both of coal and mine, bounded by the manorship of the Lords of Abergavenny, adjoining to, and can be worked from Blaenfrwydwrach, or Cwmtillery; the remains of two dwelling houses, a cowhouse, and garden, which may be improved at a little expense; together with a large right of common, the property of Mr. Thomas Davies, Pentrefoelas. The above is well worth the attention of all that iron masters in the neighbourhood, living so convenient to their furnaces; and for particulars, or a view of the premises, apply to Mr. Thomas Davies, Pentrefoelas, or to the auctioneer, Pontypool. Sale to commence precisely at Two o'clock.

**TO BE SOLD, BY AUCTION,** by MR. FROST, on Wednesday next, the 27th of October, and following days, on the premises near the Summit Tunnel, Littleborough, by order of the directors of the Manchester and Leeds Railway Company (sale to commence each day at eleven o'clock precisely), the whole of the nearly new TEN STEAM ENGINES, boilers, buildings, some observatories, apparatus, &c., & engineering implements used in the working and construction of that immense undertaking—the Summit Tunnel, consisting of amongst other articles, ten nearly new high-pressure steam-engines, used for either winding up materials or pumping, all especially constructed for this undertaking, by the best makers in the country, including one 25-horse power engine, with boiler and winding apparatus, by Naylor and Co.; one 12-horse power engine, with boiler and winding ditto, by Naylor and Co.; one 12-horse power engine, with boiler and winding ditto, by Rothwell and Co.; one 20-horse power engine, with boiler and winding ditto, by Rothwell and Co.; one 12-horse power engine, with boiler and winding ditto, by Rothwell and Co.; one 12-horse power engine, with boiler and winding ditto, by Rothwell and Co.; one 12-horse power engine, with boiler and winding ditto, by Copeland; one small steam-engine and boiler at the Littleborough station. Also, all those ten several engine houses and buildings, with the chimneys, boiler settings, and engine foundations; four stone engineers' observatories; 1000 yards of fishbelly rails, with chains for them; one and a half miles of single railroad, with sleepers and chairs complete; 500 yards square pump rods with iron joints; 16 six-feet square, three inch plank tanks or water-cisterns; one large tank, 12 ft. 6 in. by 11 ft. 4 in., by 8 ft. 8 in.; 500 sleepers for temporary rails, a quantity of round timber, 600 yards of 2-inch gas piping with screw joints, a quantity of six, six tons of flat and round ropes, two sets of winding sheaves, 3, 4, 5, 6, 7, 8, and 9-inch iron pipes, a quantity of water troughs, iron pumps, working barrels, top trees, delivering pipes, straight and elbow pipes, cast-iron pumping shafts and cranks, cast metal wheels, L legs, pedestals and weights, 30 or 40 tons of cast and wrought metal for various purposes about the works, with other valuable articles.

Further information may be had from the auctioneer, No. 30, Oldham-street, Manchester. Descriptive catalogues may be had from the agents at any of the principal stations on the line, or the auctioneer as above, who will also forward them to any part of the country, if applied for, per post.—N.B.—Littleborough is fourteen miles from Manchester, in a direct line of communication between Liverpool and Hull.

**TO COAL PROPRIETORS, ENGINEERS, AND OTHERS.**

**T**O BE SOLD, BY PRIVATE CONTRACT, FOUR excellent double-acting condensing STEAM-ENGINES, of 24, 11, 6, and 4-horse power respectively; the whole are in excellent condition, and have been recently at work. For further particulars, or to treat for the purchase, application may be made to Mr. Woodhouse, colliery viewer, Overseal, near Ashby-de-la-Zouch.—Oct. 12.

**PITT'S TANFIELD MOOR COLLIERY, and PROPERTY, at WINLATON, in the county of Durham.**

**T**O BE PEREMPTORILY SOLD (pursuant to a decree of the high Court of Chancery, made in a cause of "Davis v. Pitt," with the approbation of Sir Gifford Wilson, Knight, one of the Masters of the said Court,) at the Public Sale-room, Southampton-buildings, Chancery-lane, London, on Wednesday, the 10th day of November next, between the hours of One and Two in the afternoon, all that well-known current-going sea-sale COLLIERY, called

**PITT'S OLD TANFIELD MOOR,** together with all the establishment, of dead and fixed stock, of machinery, workshop, granaries, stables, storehouse, agents' and workmen's houses, &c., complete, for carrying on the same, late the property of Wm. Morton Pitt, Esq., of Kingston House, in the county of Dorset, deceased.—The colliery is situated in the chapelry of Tanfield, in the county of Durham, and contains upwards of 1,000 acres of coal ground, in which several valuable seams of coal have been found by boring below the present working seams, and which may be "won" and worked at an easy expense. The coals are shipped by the Brandling Junction Railway Company by their docks at South Shields, on the river Tyne. They are of excellent quality, and bear a high price in the London market, they are also fit for the foreign export trade. The machinery and working pits are in a good state of repair, and the purchaser may enter immediately on completing the purchase and carry on the colliery, without being called upon to make any further advance of capital beyond the amount of the purchase-money.—Also, a portion of the LORDSHIP of WINLATON, in the said county of Durham, which has produced an average yearly income, for ten years ending May day, 1840, of about £14.

Printed particulars and conditions of sale may be had ( gratis ) at the said Master's chambers, in Southampton-buildings; Messrs. Oliverson, Denby, and Lavie, Frederick's place, Old Jewry, London; Messrs. Coombs and Son, solicitors, Dorchester; Messrs. Farmer and Co., Lincoln's Inn Fields; Messrs. Richards and Walker, Lincoln's Inn Fields; Mr. Buddle, colliery viewer, Newcastle-upon-Tyne; and of Mr. Benjamin Arkles, Tanfield Moor Sitting office, Newcastle-upon-Tyne, who will show the property.

**OLIVERSON, DENBY, and LAVIE, Plaintiffs' solicitors.**

**T**o BE PEREMPTORILY SOLD, BY PUBLIC TENDER, for the unexpired term of four years, commencing from the 1st of January next, pursuant to a decree of the high Court of Chancery, made in certain causes, "Shale and others against Dr. Hodson and others," and "Shale and others against Caroline Hodson and others," and "Shale and others against Thompson and others," and "Shale and another against Mary Hartshorn and another," with the approbation of James William Farmer, Esq., one of the Masters of the said Court,—all the THICK COAL, commonly called the TEN-YARD COAL, lying and being under all those several classes, pieces, or parcels, of freehold land, called the Wildfield Jones, estate and lying at Highfields, in the parish of Brighouse, in the county of Bradford, containing six acres or thereabouts, and adjoining to collieries, now in work, belonging to the estate of the late Earl of Dudley, deceased. These mines will be sold subject to an agreement made by Jonathan Hartshorn, the testator mentioned in the pleadings in the above causes, with certain parties, for getting, raising, and delivering the said coal into boats on the canal, at and for a certain sum per ton. Also, all the unguited part of the THICK COAL, the GURBURN HEATHEN, and all the other measures of COAL and IRONSTONE below the Heathen coal, remaining uncolled, under all those classes, pieces, or parcels of copyhold land, situate at Bilton, within the manor of Stowthorpe, in the county of Bradford, and called the Bath Crags, and containing ten acres or thereabouts.

The whole of the above mines will be sold for the residue of the said term, reserving royalties, tenders for which, in writing, and sealed up, are, or will be before the 5th day of November, 1841, to be addressed to Mr. Richard Thompson and Mr. Thomas Broome, the surviving trustees of the estate of the said testator, or to Mr. John Mason, the collector to the said trustees, all of Bilton, in the county of Bradford; and particular and terms of sale may be had, gratis, at the said Master's chambers, in Southampton-buildings, Chancery-lane, London; of the said Richard Thompson, Thomas Broome, and John Mason; or Messrs. Clarke and Moseley, solicitors, Lancaster-place, Waterloo-bridge, London; of Messrs. White and Eke, solicitors, Bedford-row, London; of Mr. Chapman, solicitor, Gray's Inn-square, London; and of Mr. Griggs, solicitor, East-street, Red Lion-square, London.

**TO ENGINEERS, FOUNDERS, MACHINE MAKERS, STEAM-SHIP BUILDERS, AND OTHERS.**

**F**OR SALE, an extensive and valuable MANUFACTORY, for the construction of STEAM-ENGINES, BOILERS, GENERAL MACHINERY, CHAIN CARLES, ANCHORS, FOUNDRIES, FORGED GOODS, and GENERAL BLACKSMITH WORK, well-situated as the FOOTDRY IRON-WORKS, Aberdare.—The works occupy nearly four acres of freehold ground, at a very moderate free-duty, or ground-rent, and are situated at Footdry, in the populous city of Aberdare, within one yard of the Hartshorn quarry. The engines, boilers, and machinery of several of the large class of steam-ships have been wholly constructed and fitted at these works, which afford sufficient facilities to parties engaged in that branch of business, and such as exist in few other establishments in the United Kingdom. The foreign and coasting trade of the port of Aberdare is very extensive, and has rapidly increased for several years past, whilst the steam trade in London, Hull, Lancashire, Orkney, Shetland, &c., is carried on to a very considerable extent.

Immediately adjoining the works, and belonging to the same proprietors, is an extensive ROPE, SAIL, and FELT WORK, which will also be DISPOSED OF, either with or without the framework, as may be agreed upon. To a party desirous of engaging in the building and repairing of steam or sailing vessels, the construction and repairing of steam-engines, sugar-mills, and general machinery, these works, from their usual situation and peculiar facilities within themselves, will be found particularly well adapted. The whole of the buildings are substantial, commodious, and suitable for the respective trades carried on within them. The machinery is of the first class, and in excellent order, the whole having been erected at considerable expense. In the meantime, the work will continue to be carried on in all its branches, and orders executed as usual.

A plan and specification of the premises have been printed, which may, with all particulars and further information upon the subject, be had upon application to Messrs. Johnson and Parry, solicitors, London; John Jepp, Esq., W. B. Edwards, or Messrs. Appold and Head, surveyors, Aberdare, in whose hands the title-deeds of the property are.

London : Saturday, October 23, 1841.

[PRICE 6D.

**TO MINERS, ENGINEERS, COAL PROPRIETORS, &c.**  
**O**N SALE, by PRIVATE CONTRACT, at the RHYDMWYN FOUNDRY, near Mold, a great variety of MATERIALS adapted to Mining purposes, consisting of pumps or pipes of all sizes, plunger poles, working barrels, clack and H pieces, stuffing boxes and glands, iron rods, rod plates and bolts for wooden rods, flat rods, &c., &c.—For price, apply to Mr. John Arthur, at the works, Rhymwyn, Mold, Oct. 13.

**WANTED,** for an extensive iron-works, a first-rate Engineer, to take the entire charge of the Engineers and Machinery, in all its different branches. A liberal salary will be given, it is requested, to save trouble, that no person who is not scientifically and practically competent will apply. Letters addressed, post paid, to "A. B." at Messrs. Bailey's, stationers, Cornhill, London, will receive attention.

**TO ENGINE MANUFACTURERS, &c.**  
**WANTED**—A YOUNG MAN, who has for some years filled the situation of Engineer at extensive iron-works, wishes to OBTAIN a similar SITUATION, or at a steam-engine manufactory; the advertiser is perfectly competent to undertake the superintendence of the manufacture of engines and machinery in all its branches—satisfactory references can be given. Direct to "A. B." Mining Journal office, 27, New Broad-street, London.

**LTEN MINING ASSOCIATION.**—In pursuance of the power vested in the directors of this association, they do hereby make a CALL on the shareholders of ONE POUND per share, and request the same to be paid to the bankers of the association, Messrs. Williams, Davies, and Co., on or before the 20th day of November next. The bankers' receipt, together with the certificate of shares, should be left at the office of the association, 34, Broad-street-buildings, two clear days, that the payment of the instalments may be inscribed thereon.

Dated in London, the 19th day of October, 1841. EDWD. J. COLE, Clerk.

**CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.**—Notice is hereby given, that a DIVIDEND of TWO POUNDS per share will be paid to the holders of certificates in this company, at the office of the association, 24, Austinfriars, on and after the 20th day of October next, between Eleven and Three o'clock. The proprietors are requested to leave their certificates at the office for examination three clear days before the day of payment.

By order of the court of directors. W. LECKIE, Sec.

**MEXICAN AND SOUTH AMERICAN COMPANY.**—A SPECIAL GENERAL MEETING of the proprietors of shares in the Mexican and South American Company will be held at the office of the Anglo-Mexican Mint Company, No. 9, New Broad-street, on Thursday, the 11th day of November next, at One o'clock precisely. H. W. SCHNEIDER, Managing Director.

10, New Broad-street-mews, October 26.

**STEAM POWER.—THE BIRMINGHAM DISC ENGINE COMPANY** request the attention of the public to their ENGINES, which are particularly suited for all kinds of mills and manufactures wherein steam power is required; for raising minerals and water from mines; for the application of steam power to agricultural operations; to drive sugar mills; and to draining fans. Disc engines have been employed in these various applications for a continued period, and their use has fully proved that they possess most important advantages as compared with engines of the old construction. These advantages are founded on the small space occupied by the engine, the simplicity of its construction, and consequent reduced liability to get out of order; and they consist in a large saving in the first cost of engine power, a most important economy in fuel, and a great reduction in the constant expenses of wear and tear.

Full particulars of prices, with references to engines at work, will be forwarded (post free) on application to the Disc Engine Company, Berkeley-street, Birmingham.

**TO RAILWAY DIRECTORS, SHARE PROPRIETORS, AND THE PUBLIC.—COLLISIONS ON RAILWAYS NEUTRALISED,** whereby the lives not only of the passengers but the engineers will be preserved, and but little or no damage done to the locomotives and the carriages.—Mr. EDWARD BURRELL is induced further to publish a suggestion he has long since made of a simple, feasible, and not an expensive REMEDY for PREVENTING ACCIDENTS by collisions on railways, in any way, even in a similar case to the awful crash and melancholy catastrophe resulting from a recent occurrence where the locomotives were propelled off the rails. The inventor is desirous of presenting the plan (which is approved of by many scientific persons) himself, to prove its practicability and efficacy, feeling confident the result will be successful. By the adaptation of his suggestions a great expense will be saved to the companies, as the application of them will entirely supersede the necessity of the buffer springs. Plans may be seen, and further information obtained, by addressing letters (prepaid), as above, at 8, New Terrace, Camberwell-green.

**THE PATENT SAFETY FUSE.**—FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the safest, cheapest, and most expeditious mode of effecting this very hazardous operation. From many testimonies to its usefulness with which the Manufacturees have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c., &c.—

"I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

**ANDREW SMITH'S PATENT WIRE ROPES,** for standing rigging, lightning conductors, strapping of blocks, mining, railway, and general purposes; about half the size and weight of hemp rope, and 25 per cent. cheaper. Testimonials to that effect, with specimens, may be seen, and every information obtained, at the office, 24, Old Broad-street, city, 49, Princess street, Leicester-square; manufacturer, Mill-wall, Poplar; and also of the following agents—Robertson and Co., 12, Gorey Place—Liverpool. Mattinson Dunn—Newcastle-on-Tyne. Joseph Bellamy—Plymouth. John Thompson and Co.—Wigan. J. T. Tregelles—Dublin. Thomas Monro and Son—Wirksworth. Perrins and Nolan—Belfast. Costes and Young—Glasgow. James Kilbie and Co.—Leith. James Goss—Dundee. J. M. Beattie, Clement's Inn, High-street, London.

**ANDREW SMITH'S PATENT WIRE ROPE.**—This rope has been in use for standing rigging for Her Majesty's Navy, and is a great number of mercantile vessels, for upwards of six years, and is giving the highest satisfaction; the rope is also employed in various mines and railways in different parts of the kingdom, but reference is particularly made to the Stock-wall Railroad, where its capabilities have been most severely tested. For although it has been in use upwards of twelve months it has never broken, and continues to give entire satisfaction.—Find following extract from "Society's Report" at late meeting of proprietors.—

"The adoption of the wire rope has been attended with complete success; it has never broken, although some portion has been in use for twelve months. In working the whole line with wire rope, care has been deemed necessary to wash the effects produced upon it, and the proprietors have therefore advised that it should proceed gradually, but they are satisfied that ere long the hemp rope will be wholly removed from the line, except so far as a small portion, may be required to afford the necessary elasticity in starting the train; when this is accomplished, a great reduction in the annual expenditure, as compared with the hemp rope, will be effected."

**THE MINER'S GUIDE,** by THOMAS SMITH, Esq., Civil Engineer, &c., &c. Copies of this work, together with a large map of the mines of South Staffordshire, Shropshire, and South Wales, &c., may be had of the author, Horley Heath-place, Tipton, Staffordshire, price 4/- 1s.

**THE CORNISH ENGINE.**—Mr. Wade has published AN EXPERIMENTAL INQUIRY concerning the RELATIVE POWERS of, and USEFUL LIFE, of propellers by the CORNISH and BOULTON, and WATT PUMPING ENGINES, and CYLINDRICAL and WAGON-HEAD BOILERS, by THOMAS WICHFORD, M. Inst. C. E. M.

In quarto, extra cloth bound, price 10/-, High Holborn.

**THE INVENTORS' ADVOCATE, AND JOURNAL OF INDUSTRY.**—A WEEKLY BRITISH AND FOREIGN MISCELLANY of NEW INVENTIONS, MANUFACTURES, and ARTS, is the most useful and comprehensive work of the kind published. It contains the scientific intelligence of the world; correct information on railways and steam navigation, and of patents granted and expired; specifications and descriptions of new inventions; reports of scientific meetings, and original papers on Manufactures and the arts, with a variety of information interesting to inventors and patentees. It is not only a journal of interest for the day, but forms a standard work of reference, valuable to persons engaged in scientific, manufacturing, and mechanical pursuits. Vols. 1, 2, 3, and 4, already bound, are entirely published, and the fifth Vol. is now in course of publication. The Inventor's Advocate, price 4/-, postage free, is published weekly, by the proprietors, at the post office, No. 101, Strand, London.

**TALACRE COAL AND IRON COMPANY.**—The report of Mr. Ashurst, read at the Adjourned Special General Meeting of the proprietors of the Talacre Company, held on the 10th inst., appeared in the Journal on the 10th—the following is a copy of the counter-statement, or "reply," of the parties implicated (Messrs. Alderman Thomas Wood, Weston, Davis, and others), drawn up by Mr. Hornidge, was also read at the same meeting, and which is now submitted, with the object of rendering the publication of these documents complete.

**THE STATEMENTS CONNECTED WITH THE TALACRE COAL AND IRON COMPANY, BY THOMAS WENTHORN WHO WAS FIRST CONCERNED IN THE FORMATION OF IT.**

In September, 1838, Messrs. Wood, Weston, Davis, Jenkins, &c., went to Chester as a deputation to meet the citizens on the subject of the St. George's Harbour and Chester Railway Company, when they all proceeded along the proposed line by the coast to the Great Orme's Head (or St. George's Harbour); here they for the first time became casually acquainted with Mr. George T. Baker, who professed to take a deep interest in the projected railway at the public meeting held in reference thereto. A conversation incidentally took place between Mr. Baker and some of the above-named parties (except Mr. Wood, who left the party at Chester), on the subject of the coal properties, and their advantageous locality for the supply of coal with, coal, when the latter were induced to make diligent inquiries as to the probability of carrying on a successful business in the supplying of coal, &c., to Dublin, with coal, when the latter was to be sent to them a portion of a valuable coal field in Flintshire, of which Mr. Baker stated himself to be joint owner. In this month a correspondence took place between Mr. Baker and the above-named parties, when by letter dated 27th of September, 1838, Mr. Baker offered "to sell 100 acres, at £10/- per acre, and one acre, at £1/- per acre, representing" that the usual coal grain is twenty-five acres, and the royalty one-fifth to one-sixth, with a charge for deposit of from £20/- to £40/- per acre, "that the seams of coal were three—viz., four feet deep, five feet, and the royalty one-fifth to one-sixth, with a charge for deposit of from £20/- to £40/- per acre." That the total expense of raising coal, would not exceed £1/- per ton, and that the ground had been worked many years without coming to a fault; besides there was a great abundance of ironstone, limestone, &c., that the coal was better than Whitishaven, and applicable for home purposes, as well as steam or land or sea—Messrs. Weston, Davis, and Jenkins having, by personal observation, ascertained the excellence of the coal, and its fitness for the Dublin market, consulted Mr. Edward Bagshaw, mineral engineer, with respect to this property. This gentleman was considered a first-rate authority, on regard coal and iron; he had discovered the valuable coal seams on Lord Dartmouth's property for twenty-three consecutive days before the House of Lords, in the great session of 1831. Atwood—"he was likewise employed to regulate the concerns of some of the most extensive ironmasters and coal proprietors in Shropshire and South Wales—admitted to which, he was minutely acquainted with the mineral character of the district in question. These reasons were sufficient to justify Messrs. Weston and Co., in replying with unbounded confidence upon his opinion and judgment, and in making the purchase they acted in accordance with his views and remarks. The terms of purchase they considered extremely favourable, inasmuch as they were aware that coal-fields were not at indefinitely higher rents—viz., the Bedfor Colliery, near Leigh, Lancashire, the property of Mr. B. Biggin, a four-foot seam of coal, was let for £7/- per acre, or £28/- per foot; the coal-field in Lancashire, belonging to Joseph Arkwright, Esq., four feet deep, at £10/- per acre, a coal-field in the same county, six feet thick, belonging to the executors of Mr. Crookshank, let at £10/- per acre. That the depth of the lowest seam was not 110 yards from the surface, whilst recently in a pit sunk at Pendleton, near Manchester—the adventurers had considered themselves well repaid by finding a six-foot seam after sinking 440 yards—besides numerous other instances. That the royalty was but £1/- per ton, whereas the average royalty in Shropshire was £2/- per ton (see Report of Select Committee of the House of Commons, August 18, 1831), and surface damage only double the rental of the land. That the royalty upon iron was a nominal one, whilst the average royalty in the iron districts of South Wales was £2.40, £1.10, and in Shropshire £1.10 (see same report), with a superabundance of iron ore, at an expense of about one-fourth of that raised in other iron districts.

The quantity of coal calculated from the three seams upon this property would exceed eighty millions of tons; arrangements were made to form a private company for taking about 150 acres, and on the 10th December Mr. Baker wrote that on the property to be purchased he had come to coal in a new shaft. It was therefore determined by a small private association to work this coal-field, and in pursuance thereof, about the middle of December, Messrs. Weston and Baker, on the one part, met Messrs. Davis and Pottinger on the other, in Dublin, when an agreement was entered into, in the first instance, for the purchase of 100 acres, at £10/- per acre. The parties having the fullest confidence in the capabilities of the land, on the 17th of December entered into a new contract for the purchase of 100 acres additional (making in all 150 acres), at £10/- per acre each, subject to one-seventh royalty

had incurred ; 2d, for the lightness of coal losses they had taken upon themselves, amounting exceeding £2000 per annum, &c., and cash payment of £20,000 ; and 3d, for the time and energy devoted to the business previous to the formation of the company ; and, 4th, for yielding up all their anticipated profits to the company, and the advantages of their targets.

On 26th April, Messrs. Weston and Davis received a letter from Mr. Baker, that Mr. Levason was dissatisfied with the bargain he had made, thinking he had been hardly dealt with, and he refused to ratify the agreement, and requesting one of the parties to proceed to Wales, in consequence of which Mr. Davis was sent to Llancaen ; then Mr. Davis succeeded in inducing Mr. Levason to waive the claims and objections made by him. At this time it came to Mr. Davis's knowledge, that Mr. Levason had purchased, in his own name, and Mr. Baker, the Bryn property for £10,000, and not as he was instructed, for the original proprietor, and Mr. Levan, who refused to transfer it to the original purchasers for less than £20,000, this they knew they could force him to surrender, having already treated it through Mr. Bagnull and Mr. Baker, acting as their agents, which they subsequently did.

In preparing the prospectus to be laid before the public, the utmost vigilance was observed in rendering their statements consistent with facts ; instead of 2000 acres, as therein mentioned, they had secured an additional Crown grant of nearly 500 acres, making above 2500 acres (independent of the Bryn property), besides the increased extent of marsh land, and the right of working several thousand acres under the river Dee. The utmost care and vigilance were exerted by the original proprietors to ascertain the value of the property, as they purchased, and both before and subsequently after they had got into possession, every inquiry was made, both in the neighbourhood and of competent persons, to ascertain its value ; and ere they ventured to assign a premium to the public, they satisfied themselves with Mr. Bagnull's report, so that, if deemed as to the property, they were not deceived by competent judges. The latter did not put an imaginary, but what they then saw more moderate, and real value upon it. After most patient and searching investigation, in which they were assisted by analogy, and by the geological stratification and formation of the country, as well by the opinions of all the scientific men who were professionally or incisively consulted, as those of the old miners and inhabitants of the district, the proprietors of the company were confident that five or six acres of coal contained in the property (independent of the marsh), varying from 7, to 6 and 12 feet in thickness, and at a very moderate depth. They were not satisfied with the ordinary test of burning, to prove the excellence of the coal, but samples, taken indiscriminately, were submitted to the ordeal of comparison in the lecture room of the Royal Dublin Society, with the coal of Newcastle, Carlisle, and Whitehaven, in which the Talscaw sustained the highest claim.

It was also submitted to chemical analysis by Professor Davy, of Dublin, and Mr. Brett, of Liverpool, in competition with the abovementioned and other good coal.

Distinct proof can be given that the coals submitted to these gentlemen were taken indiscriminately from the soils raised from the pits of the company.

The printed reports of these gentlemen incontestably demonstrate that it is a coal second to none in excellence, for domestic and almost all other purposes.

Yet, in speaking of it in the prospectus, it is only described as "at moderate depth, and of excellent quality, suitable for general purposes, either commercial or domestic." The hospitals and public establishments in Dublin having tried this coal, in their notices for contracts, authorized for tenders for "Talcau Whitehaven coal," thus placing it highest in estimation.

The cost of raising coal stated in prospectus, including royalty, is £6. 2d. per ton, whilst the actual cost by contract was £6. 3d., and less royalty—£5. 1d. At a public meeting of the citizens of Dublin, held on 2nd July, 1859, after ample opportunity of testing the coal, resolutions were passed, stating the great benefits from the prevention of monopoly from the introduction of this superior coal, and thanks were voted to the directors, for their exertions and attention, and their very satisfactory explanations, and the price of debentures was raised from 6d. to 8d. All the other facts were stated with equal care, and in strict accordance with truth, particularly the item of freight, which might have been reduced below 4s. per ton, to Dublin, had the original plan been carried out, and purchasing, but not hiring, sufficient vessels. Though by annual contracts vessels can be chartered at 4s. per ton, yet, from the fortuitous and unforeseen circumstance, such as a scarcity of small vessels, period of the year, state of the harbours, higher freight had to be given, to which was superadded the temporary expenses of cartage, from the unfinished state of the inclined plane. The iron ore and limestone were allotted to in terms equally understanding as the coal, for though, according to the analysis of Messrs. Johnson, of Buxton gardens, samples taken ad hanc from the earth yielded an average of 64s. and 6d. per cwt. respectively, an average unusually high, and although both products were supposed to be inexhaustible in quantity, yet did the proprietors advert to them simply without inviting comparison with the products of other districts. The valuable stone quarries were briefly mentioned, though estimated by competent judges to be capable of realizing several thousand pounds per annum profit. The estimates on the fly-leaf of the prospectus were framed on the principle of underrating, rather than exaggerating the capabilities of the property, and the amount of the profits. So far as the coal was concerned they were found to be correct, but as the manufacture of iron was unattempted nothing can be said on this head.

These estimates were prepared and revised, and subsequently approved of, by Mr. Bagnull ; they received the sanction of Mr. Day, C.E., of Mr. Jenkins (whose long residence amidst the coal and iron works of South Wales enabled him to prove their correctness), and several other practical miners. In this year the iron ore underwent several trials at the Cheltenham Iron Works, in the presence of Messrs. Yates, Clay, &c., where it was pronounced greatly superior to the celebrated East Indian ore, and it was then publicly stated that the Crown grant of Corn Mountain was worth at least £20,000. It may not be irrelevant here to state, that though the whole of the losses were not signed, yet the fact is notorious, that the simplest memorandum (or "take note," as it is termed) is considered equivalent for all ordinary and preliminary purposes, in transferring mineral property. Though the amount of the purchase money was not stated in the prospectus, yet almost every individual taking shares or debentures was informed that the price was £6 per ton. The prospectus having been issued, and the public invited to take shares and debentures, a most powerful opposition was organised in Dublin, by the agents of the Cumberland and Scotch collieries (aided by those of Wales), who had for a series of years possessed an exclusive monopoly, tyrannically exercised, to the great prejudice and discomfort of the citizens of Dublin. No report, however, virile or valiant, was left unanswered, and the simple fact of their having been two cargoes of coal shipped at Moulton Pier (because of the hemp tides, and improvements going on at Tinner's harbour) was construed into the company's having purchased the coal at Moulton Colliery, superseded to this was the determined and unprovoked hostility of some of the Welsh military proprietors and their friends in the neighbourhood of Tinner, who, fearing a formidable rival, unscrupulously affirmed that there was no coal upon the unfried lands, and that any specimens alleged to be found in Dublin had been fraudulently conveyed there to mislead the public, and if there were

so, it was to burn.

Many gentlemen who took very largely of shares and debentures, as well as others who wished for shares, were determined to judge for themselves by ocular demonstration, and accordingly visited the works, where every opportunity for strict investigation was afforded ; amongst others Mr. Shaw (of Cambridge), who applied for 500 shares, after he had seen and inspected the works, and Mr. Chapman and others did the same—who all came back impressed with the great value of the property and the excellencies of the coal, and proving their sincerity by becoming shareholders, and thereby inducing others, who had not examined the property, to follow their example. At this time the number of incalculable debentures was reduced from 20,000 to 10,000, about half of which were taken up. With this exception, no change whatever took place in the plans of the company from its formation, nor had any been made in those of the original purchasers, except the quadrupling the extent of their original purchases, and transferring them to the company to live of working themselves, as primarily intended. On the 10th May, 1859, letters were written to all the original proprietors to pay £100 each to Mr. Weston, as treasurer, on or before the 7th of June inst., in order to meet the first payment of £2000 to be made to Messrs. Levason and Baker on the 10th June. It was from these contributions that, upon that day, Messrs. Levason and Baker received £1000 in cash—say £4. 7s. in a bill of Mr. Richard Bowens. Upon this day Mr. Levason used every means to break off the agreement, and stated he would do no unless the money were paid before one o'clock ; subsequently the company obtained possession of the entire of the Bryn colliery, comprising nine pits on our acre, at the exact price which Messrs. Levason and Baker had actually paid for them—viz., £100, and £100 for the additional workings and outlay, which transferred the company entirely, and although it has been erroneously stated, that these were sold to the company by Messrs. Levason and Baker from these pits, because of certain invoices bearing their names, and cheques given for certain amounts (whilst Mr. Levason claimed a right to hold the Bryn property, and for peace sake), yet a contract was entered into by Mr. Baker (for Messrs. Levason and Brown), "that all profit upon the workings which Mr. Levason had charged the property to have been paid by him to the company under the false notion that the property was his and not the company's" should be accounted for by the company in the settlement of accounts. And it was so settled, these demanding even the acknowledged consciousness of the company having either supplied or sold coal to their own exclusive and incalculable property. From this period June, 1859, Levason and Baker continued as partners at Tinner, having by far the largest share and interest in the unceasing progress of the company. On the 21st June, 1859, the first team was reached in the Piton Pit, where the engines of the company commenced noise, which was three-fourths of a yard in the thickness, and, though not well calculated for domestic purposes, it was considered most excellent for various other uses.

During the two following months (July and August), every exertion was used by the directors to place the works upon a proper system of working—to perfect the inclined plane and increase the get of coal. A cargo of coal was sent on a sample to Liverpool to Mr. Colclough, who then writes of them—“I have discharged the cargo of coal, and the reports I have so far received are very satisfactory.” During the month of August many reconnoisseances were made to Messrs. Levason and Baker in reference to the repeated delays which were taking place. In September a delegation was sent to Kendal, at the request of the industrial inhabitants, to arrange these numerous difficulties ; after three conferences they agreed to take 3,000 debentures, and pay up £100 upon them, provided the company would agree to send 20,000 tons of coal annually to addition, at a very low price—upon which points the proposition was broken off. Two cargoes had been ordered for Kendal, which Mr. Levason was directed to ship from the second or six feet seam, but, in direct violation of his instructions, he sent the coal from the first seam, which was not so good for domestic purposes, and even this was done in a careless way—indeed up with slack and not thoroughly as in practice an undesirable impression of the coal. He pursued the same course in shipping two cargoes to Southampton and Liverpool, thereby most seriously discrediting the character of the coal. In consequence of these results, Mr. Levason, towards the end of that month (September) ceased to have any thing to do with the management, and Mr. Baker remained sole manager.

The third of settlement was called the 1st October following, which expenses had it is made between the shareholders, of the first part—the trustees, Messrs. Wood, Weston, and Stevenson, of the second part—and eight of the original proprietors (representing the seven who first engaged in the business), of the third part, the donee section had the ten-twelfth portion of the third part were entitled, of their own right, to all the mines, in the localities of Perton and Gwernon, prior to the 1st of March, when the company was formed, they had agreed to contribute all their said rights, interest, &c., to the proposed company, which was agreed on the basis of the possession of the said properties.

It will then be seen that the title of the property, with the exception of the Bryn, was, in truth, the property of the seventeen original partners, and that, after they had become entitled to it, they, finding that the same had gone upon them, and that, therefore, they could not feel satisfied, resolved to form a company to take over the working of the mines, and to be to the owners their entire interest in the property for £10,000, but not the coal. Such was their faith to the value of the property—such the separation formed of the property a reasonable consideration. But their trust in private men—what they conceived. There had a right to take £10,000, but they believed that the shares would turn out more valuable to them. When the mines were successfully worked, and there seemed to fail no difficulties,

that if sufficient capital had been raised, all things would have gone on well—a dividend would have been paid—the directors satisfied—the shareholders satisfied—and thoroughly served. The failure has not arisen from too high a value having been set upon the property, but solely from the want of capital and confidence amongst the directors and shareholders.

Some remarks have been made upon the fact of Baker and Levason having been paid out of the monies received from the shareholders ; the fact is true, but makes no difference whatever, unless a doubt is intended to be raised, that the money said to have been paid to them was, in fact, paid to or divided amongst others. The company is not charged with the amount twice over, and ample opportunity is afforded to ascertain whether or not the money was really paid to Baker and Levason by the claimants on the bankers.

An attempt is made to charge some parties (who, it is not said) with fraud—where is the proof? The seventeen parties obtain land and mining property, they agree to pay for it a certain price—they sell it again, and take the purchase money out in shares, except Baker and Levason, no person, other director or shareholder, have participated in the monies raised, or in any way benefited one shilling by the establishment of the company. The accounts are open—that are in the possession of the parties—they have been examined, audited, and approved, and were lying in the office for some time for each shareholder to inspect. If it is thought proper, notwithstanding the directors fail, and still feel, that the price charged to the company—viz., £110,000, was a fair and just price—that it was such as the property would have realised, yet, when default was made in the non-payment of the instalments on the share, and where the mismanagement of Baker and Levason first placed the company in difficulties—and some remarks were made as to what are termed the free shares—a meeting was held, and a committee appointed, who proceeded to investigate the whole subject, and, after a careful investigation, it was determined, in order to promote the property of the company, that the following shares should be issued, viz., £100 worth, allotted to Alderman Hodges ; £2000 worth, allotted to Alderman Hyndman ; and out of the residue of the £10,000 free shares, there can be no doubt that at least £10,000 worth more will be issued if confidence be restored. It should also be borne in mind, that the directors made a purchase of Levason's shares, amounting to £17,500, of which £7,500 was subsequently deducted, to £10,000, by giving him bill for the amount due to him. Baker also transferred to Weston and Davis, of his shares, £15,000 worth, which are in the office, cancelled—viz., £10,000 worth, allotted to Alderman Wood, but never taken by him ; £2000 worth, allotted to Alderman Hodges ; £2000 worth, allotted to Alderman Hyndman ; and out of the residue of the £10,000 free shares, there can be no doubt that at least £10,000 worth more will be issued if confidence be restored. It should also be borne in mind, that the directors made a purchase of Levason's shares, amounting to £17,500, of which £7,500 was subsequently deducted, to £10,000, by giving him bill for the amount due to him. 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some length, appears to have been worked out formerly for ore. Some of the vein which has been left contains some good azogue ore; we are, therefore, anxious to reach the bottom, as this may be the place referred to containing ore in the description given, some time since, of this mine by the old harras. Our harras reports show that the ley of the ore in the Biscan vein is still, upon the whole, rather declining. The best and most productive parts are still found between Terrenos and S. Teresa, and S. Teresa shaft, where we shall be enabled to extend our trials considerably when the lode is cut in the new level (named Taylor's) now driving south from the bottom of Terrenos shaft, at 245 varas under the adit. We hope to reach the vein here in about five months, or in less time, if the ground be favourable, and no serious hindrance should occur. The water has abated a little in the Esperanza level, west of Guadalupe, and I have no doubt that we shall find the San Francisco bottoms dry. Our progress in this level has been checked, as already noticed in former dispatches, by the bursting out of the water and the quantity of rubbish it brought along with it, and by being obliged to return to drive upon the hard north part of the vein; having now, however, put the level again into a regular course of working, we expect to be able to avoid such difficulties in future, but our progress will be slower than if we could carry on the level on the south part as we had intended. In the San Bernardo veins we have cleared forty-three varas under the adit, and we are now going on favourably, after having experienced some delay by the crushing in of the south ground, which cleared several varas of what we had cleared in the wings. Here is an appearance of water, and the advantage of a free ventilation of air, which finds its way through the old workings of San Francisco shaft, from which we are led to hope that we shall find a clear level below. In the adit now driving north of San Vicente we have lately had a very kindly lode and some good ore, although in small quantity. The old mine of Carolina lies a little further to the north, and as it was very productive, and the former owners were prevented following the ore downwards on account of the water—this is, upon the whole, a promising point. I send you herewith a section of the workings of the Santa Brígida vein, including all the ground lying between the Acosta and Biscan veins. The greatest deposits of ore seem to have been found to the north and south of the extreme points we have yet reached in our new workings from this shaft; we may, therefore, entertain a hope that, by extending the levels towards these points, we may meet with something better than we have hitherto found. In favour of these operations the ground is fair, as it is generally in the Santa Brígida vein, where we can drive four varas as easily as we can one vara on the Biscan vein. The absence hitherto of heavy rain has caused the water to continue sinking, and that it has disappeared at Sacramento, San José, and La Luz, as well as in the old and new shafts at Acosta. You will observe that San José shaft stands in a favourable position for making trial of another part of Santa Brígida vein. We cleared and repaired the shaft last year, and sunk few varas upon a large and kindly lode, which contained a little ore, but before we could make the trial we intended, by driving, the water rose and stopped our progress. We propose resuming the works at this point when the costs now incurred in completing the engine at Acosta shall have abated. At La Luz the best point we have seen is about twenty varas in length, between A and B (see the section). The vein is two varas, and the ore part two feet wide, easy for breaking, and produces, by assay, sixty mrs. per monton. The vein at B has not yet been cleared; we suppose it to be good, as it is the deepest point which the natives reached when they worked here upwards of our hundred years ago. The vein from C to D, in the forty-seven varas level, produced smelting and azogue ores, the former assaying from 60 mrs. to 80 mrs., and the latter from 15 mrs. to 25 mrs. per monton. The south slopes, from A to C, are about twenty varas in length, producing ore, which assays from 30 mrs. to 40 mrs. per monton. In the end F there is a fine looking lode, with fair ground, but very little ore. The arch of ground G contains ore, worth from 30 mrs. to 40 mrs. per monton. La Luz ore, judging from its appearance, would seem to contain manganese and iron, and is what would be called gossan ore in Cornwall. It is very favourable for smelting, but does not give its ley of silver in the amalgamation process. It is rather singular that the ores of Sacramento, produced from the same vein, and resembling in appearance those of La Luz, are very favourable for reduction by amalgamation, as you will have seen in the harras reports. The ores, as far as we have yet seen, from all parts of the Acosta vein, are also very favourable for reduction per patio. I regret to state that the ores raised from the new veins in Mesilas, mentioned in my last, are of so low a ley as would afford no profit in working, it is therefore suspended. You have already been informed that the sinking of Acosta shaft had been resumed; I am glad to say that the vein has much improved, and that we are raising from thence some very good ores, the best of which we are now dispatching to Registre to be smelted, in order to help the silver produce for the present month. On a moderate calculation, the value of the two classes of ore which we are procuring weekly from this point, is from £2000 to £2500. Within the last few days we have discovered another promising point in the eastern part of Acosta Mine, the nature of which will be seen in the following sketch:—[A plan of the part here alluded to is introduced, but as the following portion of the correspondence sufficiently explains the discovery a cut is rendered unnecessary].

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and that, consequently, no vein corresponding with the Santa Brígida could be traced southward beyond the Biscan vein. Many circumstances strengthened this opinion—first, no workings at the surface can be seen to indicate the existence of the Santa Brígida to the south as there are to the north of the Biscan, and all former trials in the Condor, and the company's trials at the adit level, and other points in the mine, with a view to ascertain whether the Santa Brígida passed to the south, has hitherto proved unsuccessful. I am glad to state that the silver produce of this month will probably be forty-six bars, or five bars over the estimate.

#### Mines' Report.

**Augt 9.**—Having reached the end of the Sereno level, east of St. Ramon shaft, and finding the vein poor, we have commenced to clear a wing below the level, at twenty-seven varas east of Santa Barbara veins, in the east part of which there is a little azogue ore. In San Gregorio veins, sinking below the eighty varas level, eighty-four varas east of cross-cut San Ramon, there is a large vein, with moderate ground, but poor. In the Santiago, or 191 varas level, west of Dolores Diagonal shaft, the destajeros have been employed in taking down ground in the south side of the level, where there is some azogue ore; the lode, in going west of cross-cut, is at present poor. In the Jubilao, or 116 varas level, driving south, on the Santa Brígida vein, sixty-four varas east of Dolores Diagonal shaft, the lode is from one and a half to two varas wide, but no east wall of the vein—favourable ground, but poor. The ground is hard in the back of the Esperanza level, stopping east of Santa Teresa shaft, to make room for ladders to carry the water to San Cayetano shaft through San Pedro level. At Taylor's new cross-cut, or 245 varas level, and some good ore, although in small quantity. The old mine of Carolina lies a little further to the north, and as it was very productive, and the former owners were prevented following the ore downwards on account of the water—this is, upon the whole, a promising point. I send you herewith a section of the workings of the Santa Brígida vein, including all the ground lying between the Acosta and Biscan veins. The greatest deposits of ore seem to have been found to the north and south of the extreme points we have yet reached in our new workings from this shaft; we may, therefore, entertain a hope that, by extending the levels towards these points, we may meet with something better than we have hitherto found. In favour of these operations the ground is fair, as it is generally in the Santa Brígida vein, where we can drive four varas as easily as we can one varas on the Biscan vein. The absence hitherto of heavy rain has caused the water to continue sinking, and that it has disappeared at Sacramento, San José, and La Luz, as well as in the old and new shafts at Acosta. You will observe that San José shaft stands in a favourable position for making trial of another part of Santa Brígida vein. We cleared and repaired the shaft last year, and sunk few varas upon a large and kindly lode, which contained a little ore, but before we could make the trial we intended, by driving, the water rose and stopped our progress. We propose resuming the works at this point when the costs now incurred in completing the engine at Acosta shall have abated. At La Luz the best point we have seen is about twenty varas in length, between A and B (see the section). The vein is two varas, and the ore part two feet wide, easy for breaking, and produces, by assay, sixty mrs. per monton. The vein at B has not yet been cleared; we suppose it to be good, as it is the deepest point which the natives reached when they worked here upwards of our hundred years ago. The vein from C to D, in the forty-seven varas level, produced smelting and azogue ores, the former assaying from 60 mrs. to 80 mrs., and the latter from 15 mrs. to 25 mrs. per monton. The south slopes, from A to C, are about twenty varas in length, producing ore, which assays from 30 mrs. to 40 mrs. per monton. In the end F there is a fine looking lode, with fair ground, but very little ore. The arch of ground G contains ore, worth from 30 mrs. to 40 mrs. per monton. La Luz ore, judging from its appearance, would seem to contain manganese and iron, and is what would be called gossan ore in Cornwall. It is very favourable for smelting, but does not give its ley of silver in the amalgamation process. It is rather singular that the ores of Sacramento, produced from the same vein, and resembling in appearance those of La Luz, are very favourable for reduction by amalgamation, as you will have seen in the harras reports. The ores, as far as we have yet seen, from all parts of the Acosta vein, are also very favourable for reduction per patio. I regret to state that the ores raised from the new veins in Mesilas, mentioned in my last, are of so low a ley as would afford no profit in working, it is therefore suspended. You have already been informed that the sinking of Acosta shaft had been resumed; I am glad to say that the vein has much improved, and that we are raising from thence some very good ores, the best of which we are now dispatching to Registre to be smelted, in order to help the silver produce for the present month. 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**GREAT ST. GEORGE MINE.**—Report says that these mines will work about Christmas, 1841. There must be an immense outlay in them before the adventurers can expect a return; and it is on this account, as is generally supposed, that they do not proceed. At the time the mine stopped she was yielding handsome profits; and the following is given, as the reason for her having been stopped working. Mr. Crosswell, the then copper master of the Dutchy, had twelve months more before his term would expire, for which time the adventurers offered him £500, for the dues of the mine; this offer Mr. Crosswell refused, saying that his price was £800, and unless he could have that the dues should be paid as before. The adventurers refused to meet his demand, and accordingly the mine stopped.—*Cornwall Gazette*.

**ROYAL POLVERNO CONSOLIDATION MINE.**—The spirited adventures of this mine, having obtained a copper sett from the Lord of the Manors of Trevethian, are now erecting an engine on the Old Polverno shaft to enable them to explore the lease.— *Ibid.*

#### MINE ACCIDENTS.

**SCHOOL FOR MECHANICS ATTACHED TO IRONWORKS.**—We learn, by the *Witteman*, that, in consequence of what transpired at the inquest held on the bodies of the unfortunate persons killed at the late melancholy accident at Penruddian, it has been suggested that one school at least should be attached to each of the ironworks, to teach mechanics the principles of the engine, bellows, &c., to the workmen engaged in those ingenious, but often perilous, departments. It is truly astonishing how well the workmen discharge their duties, when it is considered how few the advantages they obtain to learn the principles of engineering, &c., since classes have been formed for the benefit of engineers on railroads, why should not those employed on the ironworks have equal advantages? We know that some of the ironmasters are anxious to disseminate useful knowledge among the men; and we can pledge ourselves that it would be their interest to have specific classes for the objects alluded to. In most of the works there are old agents fully competent to act as teachers, and thus theory and practice would be combined.

**EXPLOSION OF FIRE-DAMP AT BRISTOWTIS, DUDSBURY.**—Five Lives Lost.—A melancholy case of fire-damp explosion took place on Tuesday last at Messrs. Staniford and Briggs's pit, Bristowtis, near Dudsby, by which five human beings were hurried into eternity. At the time the accident happened there were three other persons in the pit at work, but they escaped, not even hearing the explosion. Soon after the explosion occurred, John Morgan, a coal miner, entered the pit, which was then filled with the "after damp," and some time elapsed before it could be ventilated. No satisfactory explanation was given as to the cause of the accident, but it is supposed to have arisen from the greasy state of a lamp used by one of the men, and therefore more liable to become inflammable. From the evidence at the inquest, it appeared that the currents of fresh air have been rather strong than otherwise, and therefore no blame can be attached in the present instance to the proprietors.

**BUTTERLEY COMPANY'S LIMESTONE QUARRY, NEAR CRICK.**—A serious accident happened to a man of the name of Howe, while at work in this quarry; a piece of stone fell from a considerable height upon his head, and fractured his skull in a shocking manner. He was instantly conveyed home in a cart, where he now lies in a hopeless state.

**FATAL CONSEQUENCES OF AN ACT OF EALY.**—As Edward Chapman was at work at the bottom of a limestone quarry, on Thursday week, one of the men of the top, named Roe, threw a piece of stone down the quarry, which struck the deceased on the back part of his head, giving him a mortal wound.

**STEWART'S QUARRY, LOCHES.—JOHN SCOTT.**—John Scott, a quarrier, was killed by falling from a bridge of planks into the quarry.

**EARL DUDLEY'S COLLIERY, BRISTOWTIS HILL.**—Samuel Timmins lost his life at one of the collieries on the estate of the late Earl of Dudley; he was engrossed for the pits, and alone, so that it is not known how his death was commenced, but it appears that the beam of the engine from some cause fell, and precipitated him nearly forty feet.

**CARR PIT, DUDSBURY.**—As Joseph Swift, who had been working in this pit, was coming up in a tub, together with a companion named Goulding, a coal shaft, containing upwards of 4 cwt. of coal, fell down, driving Swift on coach injury so as to cause almost instant death; Goulding fortunately escaped.

**THORNLEY'S COLLIERY, CHASWORTH.**—As W. Atkinson was employed in putting coal at this colliery, the wall suddenly gave way, and, falling upon him, crushed him dreadfully.

**COURT GREENE'S COLLIERY, SWEDDINGHAM.**—On Friday last, whilst Thomas Argill, a batty collier, was at work in the pit, a quantity of earth fell upon him, and for a short time almost buried him. He was taken out, and found to be dreadfully crushed, but is now in a fair way of recovery.

**WALTON, DERBYSHIRE.**—An inquest was held here on Thursday last, on W. Dobbs, who, it appeared, had been working in a coal-pit, and that while so employed a piece of hind fell upon him, and killed him.

**IRON TRADE IN PENNSYLVANIA.**—Great exertions are in progress to bring the iron mines and furnaces of Pennsylvania into extensive practical operation. The importance of the iron trade may be judged of by the following imports of iron, nearly the whole of which is from England:

1840.	£8,114,929	In 1839	£8,314,000
1839	£8,000,000	1839	£8,000,000
1837	£8,16,15	1837	£8,16,15

**COAL, CAST-IRON, AND LEAD IMPORTED INTO FRANCE.**—We quote the following particulars from a return made by the Commissioners of Customs, giving an account of the quantities of the principal kinds of merchandise imported into France during the eight months of the year 1841, with the amount of duty paid on them, and the quantity remaining in the King's stores at the end of the month of August, and which, it will be seen, shows a considerable surplus of importation over consumption:

Arrived.	Consumed.	Duty paid.	Remain.
Coal... 1,000,000,000 kilos...	1,000,000,000 kilos...	2,000,000,000 francs...	67,600,000 kilos...
Cast Iron... 18,171,073	17,645,764	1,104,37	7,000,122
Lead... 16,000,000	9,000,000	947,937	540,000

**SMOKE NUISANCE.—ECONOMY OF FUEL WITHOUT THE NUISANCE FROM SMOKE.**

The principle of this furnace consists in the mode by which the air is introduced to the gaseous matter evolved from coal, whereby a more perfect combustion of the constituents is effected, the process being conducted on true chemical principles, as explained by Mr. Williams, in his *Treatise on the Combustion of Coal*. A furnace constructed on this principle may, by permission, be daily seen in action at the Liverpool and Harrington Water-works, St. John-street, Liverpool.

For further information, apply to Directors and Co., agents; to Wm. Routledge, engineer, 88, Princess street, Manchester; or to Mr. C. W. Williams, Liverpool.

Just published, Part I.

**COMBUSTION OF COAL, CHEMICALLY & PRACTICALLY CONSIDERED.**

With coloured plates.

By CHARLES WYE WILLIAMS, Esq.

London : Simpkin, Marshall, & Co., and J. Weale ; Birmingham : Wrightson & Webb.

**PARISIAN BITUMEN COMPANY.** Millwall, Poplar.—The directors of the abovementioned company beg to call the attention of engineers, architects, surveyors, builders, and the public generally, to the applicability of the BITUMEN manufactured by them, as a pavement or flooring; also for its use in covering arches for the prevention of damp and preservation of the masonry. They beg also to state that it has been used very successfully as a cement for masonry on the walls of the Upper Medway, and is particularly applicable to hydraulic works and foundations of heavy buildings. They beg to submit the following list of prices, and to state that they will guarantee the durability and efficiency of any work executed by them:—

Covering viaducts or arches of bridges, vaults, terraces, &c., 15 inch thick, £ 4 per square yard.

Paving pathways, kitchens, cellars, granaries, malt houses, warehouses, &c., 14 inch thick . . . . . £ 4 6

Paving barns, court yards, two rooms, wharfs, stables, &c., 2 inches thick . . . . . £ 6

Paving walks, &c., 1 inch thick . . . . . £ 8

The above charges are exclusive of the cost of carriage, which must be borne by the parties by whom the work required.

W. MACKENZIE, Superintendent.

**PUBLIC COMPANIES.****MEETINGS.**

Soliver Mining Association	Office	Oct. 28	11-12
Tamar Silver Lead Mining Company	14, Finsbury-square	28	2
Cheltenham & Gloucester Union Railway	Stroud	28	-
North Midland Railway	Station, Leeds	29	12-1
Basingstoke Canal Navigation	Law Institution, Chancery-lane	Nov. 1	3
Talacre Coal and Iron Company	Office	8	12-1
Mexican and South American Co.	9, New Broad-street	11	1
British Iron Company	London Tavern	Nov. 29	12-1

**CALLS.**

East Trelawny Mining Company	1st Oct. 25	Bartley and Co.	
North Midland Railway	29	Glyn and Co.	
St. John del Rey Mining Co.	1st Nov. 2	Bartley and Co.	
London and Blackwall Railway	21	Office	
Cambrian Iron and Spelter Co.	21st Dec. 29	London Joint-Stock Bank	

**DIVIDENDS.**

Cobre Copper Mining Company	10s. per share	Office	Oct. 28
United Hills Mining Company	10s. per share	Office	28

**NOTICES TO CORRESPONDENTS.**

**Mining Company of Ireland.**—The meetings of the proprietors take place half yearly, and the reports, with the accounts, and particulars of all business transacted therewith, regularly appear in our columns—for any further information "R. J." must apply to the secretary, Mr. R. Purdy, at the company's offices, 27 Lower Ormond Quay, Dublin.

**A. B. C.**—Our correspondent is informed that the figure would be 23/- if the number issued be 30,000. It is alone with the desire of meeting our correspondent's wishes that this could be effected. Will "A. B. C." state, in confidence, where a communication will reach him, that further particulars may be entered into?

**INCUBRATION IN BOILERS.**—The letter of our correspondent shall appear in our next.

**THEORY OF THE STEAM ENGINE.**—The reply of the Count de Pambour to the communication of Mr. J. Parkes will be inserted in our next.

The proceedings of the London Electrical Society are necessarily postponed, from the late hour at which the report reached us.

In consequence of the numerous applications made to the Editor on subject of Advertisements which have appeared in the columns of the *Mining Journal*, with references to articles or materials used in the working of mines and the construction of railways, arrangements have been partially effected, whereby all information necessary can be acquired on application of the office of the *Journal*, as also reference made to the various models, plans, drawings, and specifications, and where specimens may be seen, if being intended to devote a room to that express purpose. It is further announced, that measures are in course of being taken for rendering the office of the *Mining Journal* the medium of acquiring information on all matters connected with mineral property, where plans and particulars of estates and mining materials for deposit may be consulted and obtained. Experienced agents in the several mining districts will undertake surveys and furnish plans, sections, and reports, on mineral property and mining undertakings.

**THE MINING JOURNAL,  
Railway and Commercial Gazette.**

LONDON, OCTOBER 23, 1841.

It is now some time since we observed upon the large imports of copper ore from the mines of Cuba and Chili, of which the rapidly increasing quantity of late calls for especial notice, as the subject must necessarily press itself on the attention of the miner, if not on that of the Government. The remarks we propose making will be brief, as our object will be rather to give data, from whence deductions may be drawn, than to argue on the policy of the introduction of some measure whereby the home miner may be protected.

We have oft observed on the sulphur mines of this country, and the abuses committed by the Neapolitan Government—we have endeavoured to attract the attention of our own Government and the legislative body—we have also memorialised the Privy Council of the Board of Trade, without any beneficial result attendant on our exertions, which, we fear, is to be ascribed to the apathy which pervades the mining interest—a subject ably treated on by a correspondent, whose letter appears in our columns.

With reference to the copper mines of this country, a brief review of the produce for the past three years, and the import of foreign ores, will suffice, as demonstrative of the necessity of measures being adopted for the protection of the home miner.

The produce of Cornwall for the past three years amounts to 3,140,000*l.*, and that of Ireland and Wales to about 47,0,000*l.*—making a total of 3,610,000*l.* In the same interval, we find the produce of foreign mines to be 1,746,000*l.*, or nearly one-half the amount of the mines of Great Britain; and when it is reflected on that the greater portion of the ore from Cuba and Chili is the produce of two or three mines, it becomes a serious question as to the consequences which any further extent of operations in those countries may have on our mining industry at home.

As illustrative of the rapid increase of the returns of the foreign mines, we take those of the Cobre Mining Association, which we find for the past four years give the following results:—

PRODUCT OF THE COBRE MINES FOR THE PAST FOUR YEARS.				
Years.	Tons.	Avg. price per ton.	Amount.	
Year ending June 30, 1838	5,925	£ 19 6 6	£ 118,152	13 0
" 1839	7,336	12 4 0	141,210	18 0
" 1840	12,554	18 10 9	223,872	19 0
" 1841	20,709	13 17 0	331,503	14 3

Here is an instance of the increasing prosperity of the mines of Cuba, without reference to the Santiago Mines, which have produced 163,344*l.* 3s. 6d. in the past eighteen months, without taking into account other private adventures in the island. If, again, we take Chili, we find that the ore shipped from that country, and sold by public ticketing at Swansea, is as follows:—

SALES OF ORES FROM CHILI FOR THE PAST THREE YEARS.				
Years.	Tons.	Avg. price.	Amount.	
1839	16,126	£ 20 10 6	£ 323,304	12 0
" 1840	8,850	20 10 6	181,023	3 0
" 1841	10,831	20 0 0	248,343	0 0

To render the preceding tables, however, more perfect, we submit the total amount of foreign ores sold in the past three years, although our observations are more immediately directed to the mines of Cuba and Chili—indeed, the others are comparatively insignificant, but necessary to be included, so as to render the balance matter in accordance with the Ticketing Paper, from whence we have taken our data.

FOREIGN MINES FOR THREE YEARS ENDING JUNE 30, 1841.					
Years.	Tons.	Average price.	Amount.		
Cuba	1839	10,378	£ 19 6 0	£ 189,948	18 0
" ditto	1840	20,148	16 10 6	328,900	0
" ditto	1841	36,764	12 18 6	475,847	0
Chili	1839	10,138	20 18 6	212,204	12 0
" ditto	1840	9,560	26 10 6	261,533	5 0
" ditto	1841	10,681	23 19 0	245,345	0 0
Norway	1839	733	13 19 8	10,250	0
" ditto	1840	330	19 6 7	6,379	13 0
" ditto	1841	93	9 1 0	840	14 0
Sundry mines	1839	761	10 9 9	7,985	11 0
" ditto	1840	29	26 19 0	779	6 0
" ditto	1841	717	8 0 0	5,607	7 0

100,602 £17 6 6 £1,745,720 7 6

In addition to these sales, it may be remarked that the sales of ores from the Cobre Mines since 30th June last, exclusive of the present week's sale, amount to 4658 tons, averaging 16*l.* 6s. 3d. per ton, or a gross amount of 76,011*l.* 10s. 6d.; those of Santiago 2083 tons, average price 16*l.* 6s., or 33,661*l.* 13s. 6d., which, with other small parcels, make a total of 6786 tons, average per ton 16*l.* 4s. or 110,191*l.* 14s. 6d.—sold in a space little exceeding three months. The sales this week from Cuba amount to 1061 tons, yielding 17,497*l.* 1s.; the ores announced for sale on the 27th are 1277 tons, and for the 10th proximo 254 tons—so that, within three weeks, the quantity of Cuba ores sold will be 4852 tons, which, taking the average price of the last sale, would give 80,058*l.*—an amount so large, when compared with former sales, that we cannot foresee the consequences which may be naturally expected to result from this influx of copper ore from the mines of Cuba alone. As regards the mines of Chili, the sales since 30th June last amount to 3275 tons, at an average price per ton of 22*l.* ss., producing 73,611*l.* 18s. 6d. exclusive of the sale this week, which amounted to 7147*l.* 10s. 6d.—making, together, 80,759*l.* 15s.; this, added to those from Cuba, give an aggregate of 208,448*l.* 10s. 6d. as the amount of sales since 30th June last—thus bringing the amount nearly equal to the produce of the mines of Cornwall.

The following tables, drawn up from official documents, will be found to be useful in entering upon the question, with reference to the imports of foreign copper ore, and the export of foreign copper (supposed to be) produced from the ore so imported:—

QUANTITY OF FOREIGN COPPER ORE IMPORTED.	
	Cwt.
1834	139,740
1835	278,900
1836	368,387
1837	389,930
1838	541,343
1839	603,902
1840	838,904

Total 3,161,166

It will be seen from the preceding table, that the quantity of copper ore imported within the past seven years is 158,055 tons 6 cwt., which, if taken at 15*l.* per ton, would give—say, 2,370,000*l.* We will next take the quantity of foreign copper (or such as is assumed to be foreign) exported, which we find to be 29,920 tons 14 cwt.; this, taken at 90*l.* per ton, for we avoid entering into minutiae, would give 2,700,000*l.* as the value of foreign copper sold in the continental markets—thus prescribing to such extent the admission of the produce of British mines.

QUANTITY OF FOREIGN COPPER, THE PRODUCE OF FOREIGN ORES, EXPORTED.	
	Cwt.
1834	23,714
1835	55,456
1836	38,781
1837	103,105
1838	110,934
1839	112,830
1840	153,604



to enter the lists. We have inserted Mr. Budge's letter, with the solution to the same question, on reference to which it will be seen there is but a slight difference.]

## ACCIDENTS IN MINES.

TO THE EDITOR OF THE MINING JOURNAL.

SIR.—In scanning the columns of yours and other public Journals, the attention of the reader is frequently directed to a recapitulation of melancholy occurrences, termed "accidents," which take place in the large iron works, collieries, &c., of South Wales, to an alarming extent; and what renders them doubly distressing is, the incontrovertible fact, that a majority might, and ought to have been averted; and I have reason to suspect that, were their nature properly and wisely inquired into, by a society or body, set apart by the sanction of Government, or other qualified authority, to inspect the boilers, furnaces, and other engines employed in the different establishments, it would be found that more than three-fourths of the mortality in question arises from the penurious and selfish motives of the proprietors, who prefer working their boilers and furnaces, and making them partially effective, by a series of props and patches, till the one explodes, and the other falls down by gravity, to letting out their fires and suspending their works for a day or two, to replace or effectually repair them. And many of their collieries are also scenes of the like policy, the roofs crushing in by hundreds of tons at a time, and thereby placing men's lives in jeopardy, because they will not afford the means of supporting them, and hence follow a constant train of calamities, which are quietly passed over, on account of the opulence and local power of the owners; and they in their turn are extolled by certain local journalists for their unbounded philanthropy in defraying the funeral expenses of the unfortunate sufferers—men whose lives have become a prey to their narrow, unmanly policy. In proof of what I have stated, there were some time since boilers at work in a certain iron works in South Wales, which, to my knowledge, were patched, or rather stanchioned, six or seven times in one week, whilst the steam was at working pressure; and these boilers (if I am not greatly mistaken) were, by way of experiment, pierced by a walking-stick, applied by the force of a man's arm.

Hoping that this may call the attention of proper persons to the subject,

I remain, Sir, your's, &amp;c.,

Cawdron, Oct. 16.

AN OBSERVER.

[We fully agree with our correspondent, but, unfortunately, that which is everybody's business, is, to use a familiar phrase, nobody's. Government should interfere—but will they? We say no—until the united mining interest compels them, and it is not their *interest* to do so. Is there not sufficient philanthropy existing in the breasts of a portion, however minute, of the mining community to establish a society of the nature proposed by "An Observer"—we should hope there was. Need we say, it should have our aid.]

## TALACRE COAL AND IRON COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR.—My last, which was addressed to Alderman Thomas Wood, was intended as the *second* of a series, to try whether we could not bring forth the secrets of the prison house, in the event of the report being "Burked"—as the report is, or will be printed, there will be matter for able hands to deal with, you will please, therefore, to "hold it over" at present. The case of the worthy alderman, in proposing that the report of the committee be referred to another committee, was one of those subtle moves on the board that only skilful and long-practised players would venture upon—but, after all, he was checkmated.

The reporters appear to have mistakes the noisy brawlers, who attend these meetings to prevent the truth being heard, for proprietors, and are so called in your Journal—they are only proprietors of the nefarious shares, and I am only surprised that the directors permit their presence. We would suppose that the tinge of shame would suffice the cheek of that close enactor of the part of Joseph Surface, when he hears the vociferations of his friends—Mr. Valinor Jenkins, Mawmow Shoobridge, or Prospectus Bagwell, and knows, as he does, that these men are only interested in as far as they have obtained, or hope further to get a part of, the plunder wrung from the hands of honesty and toiling industry. Desolation is now where smiling comfort was, and the cry of the hungry "jackall" is heard among the ruins. These men seem to have acquired themselves admirably in their different capacities, and to have earned the "trumpery shares" they received at a dear rate; for heavy indeed must be the penalty they will have to pay for the falsehood and fraud practised so unspuriously by them, and the evil arising therefrom.

We had two rich scenes—one when Mr. Beddoe asked Weston how he came by the extra 7,000/- worth of shares? but nothing on earth would allow him to reveal it—what a noble-minded man he must be. What will Baker think of that when he hears of it? Can no one bring the letter of Weston's about these shares to light?—it would afford a fine comment on Mr. Weston's sacred trust. Pray, Mr. Editor, if they were placed in his hands, as he now states, should anything on earth have allowed him to give them up? He must have entirely forgotten that they were not his property, but only held in trust. The other was—when it was asked whose counter-report it was?—after all the vaunting—after all the laborious threats to give birth to, as some one happily said, "a child without a father"—after all had assisted at the delivery, no one would give it paternity; but poor unfortunate Mr. Hornidge was at length forced to make confession that all had been concerned—Wood, Weston, Davis, Hyndman, &c. I really am sorry for Wire, he is a straightforward man, and is rising into note; and it certainly is unlucky for him that he was exiled into discreditable affair as defending the guilty parties in this matter; he seemed about as comfortable as a toad under a harrow, and must see by this time where is truth and integrity. I will, when the reports are all before me, give you a few stray leaves from the "note book" of Great Russell-st., Bloomsbury sq., Oct. 22.

## ANSWER.

[It is not necessary to say anything by way of note in our correspondent's letter. The fraud has been perpetrated—the exposure has taken place—the knaves have admitted the "windid," in corroborative of which we have only to refer to the statement in the Journal of to-day—the spell has been partly abandoned, and the fifth act remains only to be played—that of justice being done to the several actors in the scene. Mr. Alderman Wood is, we believe, from the nature of his magisterial office, well acquainted with Old Bailey practice, and may, therefore, counsel his co-conspirators.]

## TALACRE COAL AND IRON COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR.—It must be truly gratifying to you to find that the report of the directors of the Talacre Company, which appeared in your last week's Number, so fully bears out the statements you have made of the "doings" of the saintly Alderman, and the no less saintly hypocrite—Mr. Shoobridge—the latter having boasted that on his provincial tour, with the object of "planting" shares, he attended chapel thrice a day; that it was only the saint, or the "saint," who were to be admitted into "the fold"; that the Alderman was the true "shepherd;" and that they, the dupes, should be his "flock." He sold the shares and pocketed his commission. As to Mr. Alderman Thomas Wood, I suppose, Sir, you are aware that within the past three weeks he laid the foundation-stone of a new chapel for Dr. Andrews, of Walworth; it is unnecessary to tell you anything about the Alderman's "doings," in Dublin, for you appear to have pretty good access to information. I think, however, he should be exposed, though "saintly hypocrite," as you say, it is lamentable to contemplate.

Oct. 19.  
I remain, Sir, your's, &c., A CHAIRMAN.

[We would rather that our correspondence had treated the subject more seriously, it is, indeed, "lamentable to contemplate" a man professing Christian principles, and setting himself up as one whose example should be followed—thus sacrificing principle to the love of Mammon, and forgetting that *excommunicatus*, which says "Do unto others as you would be done unto."]

GEOGRAPHY.—We have great pleasure in regarding the establishment of a chair of geology, in University College, London, and that Thomas Webster, Esq. (formerly secretary to the Geological Society) has been appointed to occupy it.

LONDON AND BIRMINGHAM RAILWAY.—If the sum of money expended in making the London and Birmingham Railway was turned into pence, which measure 1/4 inches wide, and placed in a line, one touching the other, the length of that line would be 31,813 miles, or considerably more than the circumference of the earth.—The average weight of a wagon of goods on the London and Birmingham Railway, is 242 tons, and the ratio of goods up to goods down, may be taken, till the directors choose to give the shareholders better information, at 1,000 to 1,025.—The fare of soldiers on the London and Birmingham Railway is 1d. per mile, or 8s. 4d. for the whole distance, and their baggage 3d. per ton per mile, or 2s. for the whole distance.—*Railroad Journal.*

## ON THE APPLICATION OF THE EXPANSIVE POWER OF STEAM TO MACHINERY.

Mr. Edward Hookham, of Truro, delivered a lecture, on Friday week, at the Truro Institution, on the application of the expansive power of steam to machinery, and a description of the combined cylinder. After a short introduction, the lecturer spoke of the various properties of water, particularly its great compressibility and expansibility in the form of vapour or steam, whence we derive that mighty power, which, by art and ingenuity, we render subservient to our wishes, through the medium of the delicate mechanism of a machine. He then went on to describe the application of steam in the atmospheric engine (Bolton and Watt's, and Hornblower and Woolfe's engines), which are well known to the scientific part of our readers. Mr. Hookham then described the combined cylinder, lately patented by Mr. James Sims, of Redruth, in which he stated that the small cylinder is placed immediately over the large one, and in close communication with it, one rod connected to both pistons working in them; the space between the two pistons is in continual communication with the condenser—consequently, forming a constant and a perfect vacuum. The weight of the large piston in the reciprocating rotary engine is balanced by a counterpoise. Steam is admitted from the boiler upon the upper surface of the small piston alone, where it expands in the down stroke, the return stroke being made by the second expansion in the large cylinder below the large piston. By this mode of working the following advantages are obtained:—1st. The steam is practically expanded to the utmost, its pressure, when condensed, being merely nominal. In Watt's engine, the steam is condensed at a fraction of the original pressure, equal to the fraction of the stroke at which it is cut off; whereas, in the combined cylinder, after the second expansion, it is condensed at a fraction of the original pressure, equal to the fraction of the stroke at which it is cut off; multiplied by the fraction, the small cylinder is of the large one about one-fourth.—2d. The power of a pumping-engine is increased in proportion to the steam saved. By making the steam expand again in the return stroke, a weight is raised nearly counterbalancing that of the rods, by which means almost the whole power of the steam in the down stroke is brought to bear upon the water in the pump, the gain equalling the amount of weight raised by the second expansion; because, in Watt's engine, the weight of the rods was not truly balanced, the steam raising the overplus to act in the return stroke.—3d. The double-acting engine is worked with one-half the steam, and yet equals its original power, supposing the small cylinder of the one to be equal to the single cylinder of the other, and the quantity and pressure of the steam admitted from the boiler in the down stroke in both cases to be equal, since in the combined cylinder the second expansion makes the return stroke, instead of a second supply from the boiler beneath the small piston, this second supply, or measure, equal to the first is saved—consequently, one-half the steam only is required to produce the same effect as heretofore with the whole. The saving of the fuel by this mode of working is stated to be very great—more than 50 per cent.

## PARKIN'S PATENT WOODEN AND IRON WHEELS.

(FROM A CORRESPONDENT.)

Wrought-iron flanges and rims being very expensive, it is deemed of much importance to substitute cast-iron (which moreover, wears better than wrought), if this can be done with safety. It is submitted that, on Mr. Parkin's principle, this object will be attained. The flange and ring being bedded on, and bolted against, wood, will not be subject to the injurious effects of vibration, or concussion, which, indeed, will be little, if at all, felt, as the rail will be principally pressed on by the wooden sectors, which extend from the periphery to the axle. The wood being turned convex, to fit into the concavity of the flange and ring, will afford to both vast support, independently of the direct bearings which each has on the sectors and the arms; and, moreover, renders it impossible, were either the flange or ring to fly, or be cracked, for any part of either to come out, so that no danger could arise from such an occurrence—and this removes the objection to the use of cast-iron wheels on railways. It is confidently relied on, that the wood and iron working together on the rail will preserve the rotundity of the wheel, while the break may be applied to the iron and not to the wood. It is, in fact, considered almost impossible for the wood and iron not to wear uniformly together, which will be a great attainment in the railway system. Cast-iron and wooden wheels will not cost above two-thirds of the wrought-iron wheels at present in use, and be much more durable, and greatly save the rails from wear and curving.

## COAL IN THE UNITED STATES.

It has been observed that coal not only abounds in the British Isles more than anywhere else in Europe, but seems to accompany the British race in its migrations. It has been already found in more than one part of Australia, and we believe also in New Zealand; but the North American coal mines, perhaps, surpass those of all the rest of the world in extent. The following account of them, which we copy from a Philadelphia paper, is probably exaggerated, but it no doubt contains a large portion of truth. The assertion that the western bituminous coal-field contains ten thousand times more coal than England, Scotland, and Ireland is ridiculous; if the writer had struck out the "thousand," and said simply ten times, the statement might have passed:—"The value of the anthracite coal mines upon the Schuylkill, the Lehigh, the Swatara, the Wisconsin, the Shamokin, the Susquehanna, and the Lackawanna, which are but just beginning to pour down their mineral wealth to the markets upon the ocean, is incalculable. In 1820 the trade commenced, and 365 tons were sent to market from the Lehigh. In 1825 the trade commenced upon the Schuylkill. The Schuylkill Canal was then finished. There are now about fifty-five miles of railroads branching from the canal to the several mines, and forty-five miles of railroads underground. About 1,800 cars employed in conveying the coal from the mines to the canal, and between 800 and 900 boats are used in conveying the coal to Philadelphia. The arrivals of vessels annually in the Schuylkill, for the conveyance of Schuylkill coal to other states, will number about 3,100. One hundred and seventy sloops, schooners, and barges, arrived in two days last week. The Schuylkill mines will this year produce more than 500,000 tons, and the other anthracite mining districts about the same quantity, making 1,000,000 tons, of which about 800,000 will be exported to other states. The coal trade is yet in its infancy and increasing rapidly; the use of anthracite coal in steam-boats is taking the place of wood in the eastern waters, and will be used in the steamers of the Ocean as the cheapest and safest fuel. It is also coming into use in driving machinery and making iron. The mines upon the Swatara are capable of producing as much as the Schuylkill, and are as those of the Lehigh, the Wisconsin, the Shamokin, and the Susquehanna; and the Schuylkill is capable of producing four times the amount that is now mined. Improvements will soon be completed in all these mining districts. What then will be the annual worth of the anthracite coal of Pennsylvania that will be carried upon her public works? But we have not only anthracite, but, according to our State Geologist, more bituminous coal than all Europe. Our state canals intersect this bituminous coal-field in all directions. All Europe contains about 2,000 square miles of bituminous coal land. Pennsylvania has 10,000 square miles, or 6,400,000 acres. It is estimated by our State Geologist that the great western bituminous coal-field of Pennsylvania contains three hundred thousand millions of tons! Ten thousand times more than England, Scotland, Wales, and Ireland! This vast mineral wealth, without the public improvements, would have been dead capital for ever. According to the returns of the county commissioners to the Secretary of the Commonwealth, there was mined in 1838, in Pennsylvania, west of the Alleghany Mountains, more than 2,000,000 tons of bituminous coal! Not one ton of this reached the Atlantic market. About nine-tenths of it was consumed in domestic purposes at home, in furnaces, and rolling-mills, and in driving machinery. One-tenth, or about 200,000 tons, were shipped down the Ohio and Mississippi. What this trade will be when the great valley is filled with population, wealth, and refinement—when Western Pennsylvania becomes the manufacturing dependence of the Western States—can hardly be conjectured. Nor is this great bituminous coal-field entirely separated from the Atlantic. We have abundance of bituminous coal, the nearest in the United States, of any quantity, to Tide-water. The Virginia and Maryland mines, on the Potomac, are from 180 to 200 miles from deep navigation at Georgetown. The completion last year of the Tide-water Canal from Hare's Cross, in Maryland, to the Pennsylvania Canal at Columbia, has this year, for the first time, opened a navigation for the bituminous coal of the Juniata, and the west branch of the Susquehanna, to the Chesapeake. It is estimated that the

trade will this year reach 100,000 tons. The amount is unlimited which can be sent from these places on our canals to market. A railroad has been constructed forty miles long, from the northern end of our coal basin to Corning, on the Chemung Canal of New York, leading into Seneca lake. There are now six locomotives and between 300 and 400 cars on this road conveying coal from our Blosburg mines into the state of New York."

## ON THE COLLIERIES OF HALIFAX AND ITS NEIGHBOURHOOD—THEIR CHEMICAL AND GEOLOGICAL RELATIONS.

BY J. S. BILLEY, ESQ.

For a long series of years the numerous shafts in this neighbourhood have served to afford employment to a large number of the humbler inhabitants, and this may be explained by the fact, that extensive strata of coal abound in several of its townships. The principal of these are North Owsram, South Owsram, Eland cum Greetland, Hipperholme cum Brighouse, Overden, and Shelf. The area of these six townships somewhat exceeds 15,123 statute acres, and since the whole are of a most uneven character, several of the hills, too, being rich in coal, it can be matter of no surprise that so much of this article of every day consumption should be mined amongst us. At the present period nearly 800 individuals are employed in the neighbourhood of Halifax. The largest portion of coal lies to the east of the river Hebble, which part of the parish includes the townships of North Owsram, South Owsram, Shelf, &c. Towards most of the valleys formed by the different hills the coal beds shelf off, so that in the bottoms none is found.

The numerous streams which course these valleys, would appear to have, in the lapse of ages, swept away the coal and the other strata resting upon it, so that from the sides of several of the hills, the various formations, from below the coal upwards, are seen jutting out one above another in a most regular manner, inclining, however, considerably backwards as you approach their summits. Many of these eminences have an appearance peculiar to themselves; for, being of an argillaceous nature, the perpetual decomposition of the clayey matter, by atmospheric agencies, gives them a rotundity and smoothness, differing considerably from the vast projections, or long and sharp ridges of quartz, which characterise several other portions of the parish.

These elevations abound in excellent stone of a silty kind, which rests superficial to the coal in three distinct measures, termed the upper, middle, and lower beds. These are respectively about half a yard, one yard, and from three to four yards in thickness, and are separated from each other by strata of clay and shale, of which that between the upper and lower bed is in some places three yards deep. The first bed, which is sometimes wanting, is only calculated for field walls, the second for flags and roofing, and the third, which is by far the best, for the heavier and more durable purposes of masonry. From the quarries of North and South Owsram vast quantities of stone are forwarded to London, to the continent, and to America, where it is in tolerable repute. In those valleys, where coal is not found, the red sandstone rock may be here and there seen peeping above the surface, which circumstance at once relieves us from the idea of finding coal, and considerably strengthens the opinion that the strata once resting upon it, have been, by some agency, carried away. In others of the valleys, formations are met with nearly allied to those of the hills which surround them, thus proving, either that in some extraordinary convulsion of nature, the hills have been upheaved, or those plains composing the valleys depressed. Both movements have some foundation in truth. That convulsions of an extraordinary character have once visited this parish is abundantly shown by the numerous remarkable faults which have, from time to time, manifested themselves, both during extensive excavations for stone, and in mining for coal. Of the former, there is a remarkable example in the cutting at Ainley-top, near Elland and of the faults in coal mines, there are few colliers in this parish who have not had reason to complain. At Ainley-top, the strata in certain points are thrown completely out of their place, and instead of continuing united with the rest, they have their edges pointing directly upwards, thus fairly disjointing themselves from the nearly horizontal strata of which they once formed a part. In some places, instead of being horizontal or perpendicular, like the example just alluded to, they incline at an angle of 45 deg. either to the north or south, east or west. Similar instances are continually occurring in collieries, and in addition to this, the strata, though sometimes preserving their horizontal position, may be considerably raised or sunk.

With these preliminary observations, I will now proceed to consider the subject of the collieries. The number of these at present in active operation exceeds seventy. Formerly, however, they were not so numerous, though in all likelihood more profitable. The coal itself is not of the best quality, containing only a moderate share of round, and yielding a good deal of ashes. In all these properties, nevertheless, it varies much with the locality. The coal in the township of Shelf, is perhaps superior to that in other parts of the parish. It is divided into hard and soft bed, the first being known by the duller appearance of its texture, and by its being from twenty-five to thirty yards nearer the surface than the second, which has a brighter lustre. Some of the shafts yield coal of a very inferior kind, which is used only for engines. The greater portion, however, answers well for kitchen fires, and is much improved by mixing it with the coal of some neighbouring districts, as that from Wyke, Wakefield, Dewsbury, &c., or with that from the north of England. It is customary for those who can afford it, to adopt this practice, but the great bulk of the population, no one will deny, burn the coal of the parish alone. The coal, as might be expected by those versed in the geology of the district in which it abounds, is at a considerable distance from the surface, and is reached by boring or sinking, or by running galleries, under the hill, commencing at its base. When obtained by sinking, the shafts are deeper or not, according to the situation of the coal as regards faults, fissures, &c., and in proportion to the difference in elevation along the hills at which these are opened. The nearer they are to the summit of any hill, of course the deeper must the shaft be carried, before we can arrive at the coal. Most of the collieries in North Owsram, Shelf, and Eland, have shafts. In many of these places, it lies at a distance of 120 yards from the surface, and is drawn up in curves or loops by the aid of steam. In others, the soft bed is not more than twenty yards below the ground, and so many forces are brought into play to explain phenomena of this kind, that what is advanced to exemplify one, will never perhaps apply to another. When the soft bed is so near the surface, the hard bed may either be wanting, or by some extraordinary faults may have been brought, with one of its edges, into juxtaposition with the soft, thus showing that the space between them was not originally deficient, but that the convulsive movements to which all the strata here have been subjected, have altered the relations of two distinct beds.

Again, although one portion of hard bed may descend almost to perfect contact with the soft, or within any number of yards of it, from one to thirty, yet the soft bed, contained in the strata set in motion, is as far from its accompanying hard bed as before; and this is explained by the fact, that in its descent a large field of soft bed was broken asunder from an adjoining one, and thus the hard bed fell down to its place, or to a point at any distance from its own former situation. In these motions, the strata may assume any direction of level, slope, or perpendicular, so that the two beds are together, or nearly so. In some instances, throwns of this nature are so singular, that the coal cannot be excavated at all. The reader will now understand why, by the descent of one coal-field, its hard bed will be brought in contact, or nearly so, with the soft bed of a neighbouring field, which may or may not have changed its position; and he will be enabled to explain why there are several collieries in this parish, two or three of which are in the township of Eland and South Owsram. The entrances to these collieries are in Eland-park—i.e., on the side of the hill looking towards Eland—and are somewhat more exalted than the bed of the river Calder, which flows down the valley here, and along the northern embankment of which the hills in question arise. Similar kinds of collieries are in the vicinity of Halifax, Shelf, &c. The galleries of these pits are continually increasing in length in consequence of the quantity of coal which it, and has been, excavated. From the grand gallery, a number of others branch off along the coal-field. The coal when picked is conveyed away in curves or loops, which are urged by boys and girls on railways constructed for their more easy progress either to the pit's eye, whence it is raised to the top of the shaft, should it have one; or should it be a gallery mine, it is drawn along the grand gallery into the open day, by a horse or pony kept for the purpose. In the older and poorer mines, instead of steam-engines for drawing up the curves, there are either windlasses worked by the hand, or gins towed by horses. The quantity of coal, which has from time to time been excavated, is truly astonishing; but, as might be expected from the necessary increasing length of the galleries, the expense of mining it is annually augmenting, for the owner must either commence to extend his galleries further from the pit's eye, or he must sink fresh shafts, both of which circumstances are attended with additional loss of time and money. In many parts of the parish, large fields of coal have already been exhausted, and several pits are now closed in consequence of an inability to work them; this impracticability, arising from large collections of water filling the mines, and gathering even more rapidly than can be drawn off by engine pumps. In addition to this, the water comes in many cases to dry away, either by allowing it to flow into the old works which are now, or by raising what is termed a level, because it already occupies a lower surface than the bed of the Calder and Hebble, these, for the most part, being enclosed in the lowest channels by which all superabundant water escapes. This holds good only as regards the soft bed, for the hard is saline, if ever, water bound, in consequence of its more elevated position.

From some shafts both hard and soft bed are obtained at the same time,

while in others, but a single bed is mined, which may be either the first or second. When both are excavated, the task is effected by sinking down to the soft bed, from which point galleries are not only bored in the line of this bed, but, if requisite, a long one is run up to the hard bed, ascending gradually like an inclined plane. This, however, can only well happen where there are faults, which have brought the two beds nearer to each other. When the coal is reached, numerous galleries are commenced in the direction of this important measure, and any water which may rise easily glides to the lower bed, from whence it is withdrawn in one or other of the ways before mentioned. When but one bed is worked, this may arise from the other being so thin as not to be worth getting, or from the strata being in their natural position, or from the soft bed being unattainable in consequence of a great quantity of water overflowing the mine. Provided that we consider that the soft bed usually lies from twenty-five to thirty yards below the hard, we are not surprised at the difficulties encountered in the course of sinking for it. Owing to the iron which is found above it, the waters have a caked, concretes character, and as such deposit a good deal of pyrite of iron. When the strata are regular, the soft bed is seldom touched until the hard has been extracted.

Much of the coal yielded by several of the collieries, is, as I before stated, very indifferent, and as such only suited for engine fires. When, however, the demand is not sufficient for its exhaustion in this and other ways, it is made into cinders. In this case brick ovens are constructed for the purpose in the immediate neighbourhood of the pits. The coal, being nearly covered in, and the supply of air diminished, burns with a smothered flame, and thus yields up all its volatile ingredients, retaining, however, the fixed and carbonaceous. The ruddy flames of these ovens, like those from earthenware manufacturers, form a remarkable feature in the landscape.

[To be concluded in our next.]

#### WORK PERFORMED BY STEAM-ENGINES,

IN SEPTEMBER, 1841.

Taken from the official duty paper of Mr. THOMAS LEAN, of Morarion, Cornwall.

s stands for single; d for double; in., for inches.

Mines.	Engines.	Stroke in inches.	Cylinder sq. inches.	No. of strokes in each rev.	Capacity of bucket.	Pounds lifted 1 foot high by a bushel of coal.	Average quant. of water per min.
W. Darlington	Eastern 80 in. s	Foot. Lbs.	90	94 lbs.	74,510,416	787.8	
Ditto	Hause's 60 in. s	10.0	12.0	3,1	2929	47,062,330	813.1
Gr. W. Fortune	G. W. Port. 83 in. s	10.0	10.0	3,1	1371	47,062,330	813.1
Ditto	Wh. Pross. 80 in. s	9.7	10.0	4,66	2037	38,891,481	492.8
Ditto	T. Towns 70 in. s	—	—	—	—	—	—
Ditto	Wh. Friends. 70 in. s	10.0	12.44	4,76	2236	45,135,750	331.8
Ditto	Owen's 70 in. s	—	—	—	—	—	—
Ditto	Gawton 36 in. s	—	—	—	—	—	—
Providence	30 in. s	6.0	14.00	4.2	600	22,907,394	77.5
Wheal Virgin	60 in. s	10.0	11.2	3.8	1562	41,766,918	231.4
Religion	60 in. s	9.0	12.7	4.0	1638	41,919,378	147.28
Trevaskus	60 in. s	—	—	—	—	—	—
Carline Cons.	70 in. s	—	—	—	—	—	—
Wheal Julia	60 in. s	—	—	—	—	—	—
Ding-dong	60 in. s	6.0	12.2	4.7	390	25,333,981	88.6
Lerant	New 40 in. s	9.0	11.1	3.2	350	37,765,369	32.33
Botsallack	80 in. s	6.0	16.0	3.47	212	37,612,800	26.2
Godolphin	24 in. s	7.0	14.5	5.74	3468	34,513,394	452.31
Great Work	W. Breage 60 in. s	6.0	8.5	2.0	720	33,233,250	—
Ditto	Lead's 60 in. s	8.0	14.00	5.87	1108	65,362,437	208.5
Wheal Vor	Boscombe's 80 in. s	10.0	16.7	7.2	2082	44,564,721	860.1
Ditto	Trisaway's 80 in. s	10.0	16.0	4.00	1959	42,605,301	—
Ditto	Wolf's 55 in. s	9.0	16.0	4.00	1959	42,605,301	—
Ditto	Pruthale 45 in. s	9.0	12.7	4.5	238	40,488,714	281.7
Travers	45 in. s	9.0	19.0	6.8	3600	35,322,833	416.8
Dunstanburgh	—	—	—	—	—	—	—
South Rosewar	W. Chance 60 in. s	6.0	6.22	4.0	1248	36,009,347	107.4
North Rosewar	New 70 in. s	10.0	16.00	4.2	1079	33,457,696	264.9
E. Wh. Croft	10.0	11.24	5.33	1328	64,096,954	127.6	
Ditto	Dunstanburgh 36 in. s	6.0	12.9	3.0	1918	51,493,857	—
Dolcoath	76 in. s	9.0	16.00	4.00	2860	34,402,455	322.6
Wheal Jewell	35 in. s	6.0	15.00	4.00	816	31,564,052	65.2
Poldice	Stim's 50 in. s	10.0	7.14	6.0	3288	49,141,664	466.0
W. Wood	Williams' 80 in. s	6.0	10.0	4.2	1624	61,052,199	348.0
Hallensteig	Vic's 70 in. s	10.0	6.20	3.0	918	69,074,400	797.7
Ditto	Boscow. 60 in. s	10.0	11.0	3.0	918	51,493,857	—
W. Beauchamp	Western 26 in. s	7.0	10.7	3.4	1289	25,676,244	961.2
Wheal Uny	Powning's 36 in. s	6.0	20.57	4.0	960	33,910,878	—
Corn Brea	—	—	—	—	—	—	—
Ditto	70 in. s	10.0	15.00	4.00	2765	28,529,662	285.6
Ditto	70 in. s	9.0	14.25	3.00	2329	21,577,470	226.2
Ditto	80 in. s.c.c.	9.0	12.00	4.00	505	35,157,470	160.2
Tin-croft	56 in. s	9.0	13.25	3.0	1390	43,000,973	137.8
E. Wh. Bassett	60 in. s	9.0	9.75	3.0	814	44,672,093	124.1
Consolidated	40 in. s	9.0	14.00	3.0	918	39,863,884	142.0
Ditto	Taylor's 55 in. s	—	—	—	—	—	—
Ditto	Davy's 80 in. s	—	—	—	—	—	—
Ditto	Pearce's 60 in. s	—	—	—	—	—	—
Ditto	Wood's 90 in. s	—	—	—	—	—	—
Ditto	Bawden's 50 in. s	—	—	—	—	—	—
Ditto	John's 65 in. s	—	—	—	—	—	—
United Mines	Taylor's 85 in. s	11.0	11.07	3.6	1177	100,825,397	—
Ditto	Cardigan's 50 in. s	9.0	10.0	4.2	9738	84,070,443	—
Ditto	Kidson's 60 in. s	9.0	16.0	4.00	836	72,532,185	1488.0
Ditto	John's 60 in. s	9.0	16.0	4.00	836	68,013,310	—
Ditto	Hocking's 60 in. s	10.0	12.00	4.00	9295	68,013,310	—
Bisso Bridge	50 in. s	10.0	7.00	3.0	942	44,082,070	303.1
S. Wh. Towan	70 in. s	10.0	9.0	4.00	9299	30,806,985	231.1
United Hills	Williams' 60 in. s	10.0	4.50	4.00	1203	66,814,185	960.00
Ditto	50 in. s	9.0	6.00	3.0	823	32,349,881	—
Poldice	—	—	—	—	—	—	—
E. Wheal Rose	50 in. s	10.0	10.00	3.0	1351	46,634,283	277.3
Charlestown U	50 in. s	10.0	14.00	3.00	1344	50,927,311	329.00
W. F. Consols	50 in. s	9.0	12.0	3.00	1750	47,308,133	982.15
Union's 60 in. s	9.0	16.00	—	—	—	—	—
Fowey Consols	Aston's 60 in. s	10.0	12.57	3.00	3229	66,097,049	451.00
Polygoon	60 in. s	9.0	9.0	3.00	1386	72,115,081	626.00

ENGINEERS' NAMES.

Wheat Darlington, Eustis; Travers, T. Tippet; Great Wheat Fortune, Gross; Providence Mine, J. West; Wheat Virgin, Gross; Religian Mines, —; Carron Consols, Gross; Ding-dong, Eustis; Lerant, F. Michell; Botsallack, J. Rows; Balaclaw, Eustis; Godolphin, J. Sims; Great Work, Richards; Wheal Vor, Richards; Delabole, Jeffreys; Tin-croft, J. West; W. J. Sims; Poldice, J. Sims; Wheal Unity, Wood; J. Sims; Wheal Beauchamp, Hocking and Loam; South Wheal Bosom, Duskin; United Mines, Hocking and Loam; South Wheal Towan, J. West; United Hills, J. Sims; Charlestown United Mine; W. F. Consols; Corn Brea, J. Sims; Fowey Consols, W. West; Polgoon, W. West; Corn Brea, J. Sims; East Wheal Rose, Hocking and Loam; Hallensieg, J. Sims; Blissex Bridge, F. Michell; East Pool, J. West; Wheal Uny, Hocking and Loam; Poldice, Hocking and Loam.

#### STEAM-ENGINES STAMPING ORES,

IN SEPTEMBER, 1841.

Mines.	Engines.	Stroke in inches.	Av. weight in cwt. heads, tires, and water cyl.	No. of heads, tires, and water cyl.	Capacity of bucket.	Pounds lifted 1 foot high by a bushel of coal.
Ballerwidion	—	16 in. s	9.0	92	10000	1200
Charlestown U.	—	32 in. s	9.0	—	—	61,000,000
Wheal Kitty	—	32 in. s	9.0	—	—	61,000,000
Corn Brea	—	32 in. s	9.0	71.7	5602	777
Tin-croft	—	36 in. s	9.0	45	29047	1100
Wheal Vor	—	36 in. s	10.0	84	26260	1200
W. F. Consols	—	36 in. s	9.0	65	26943	764

ENGINEERS' NAMES.

United Mines, Hocking and Loam; Charlestown United Mine; —; Dartington, Fowey Consols, W. West; Wheal Travers, T. Tippet.

The boilers are made of Wrought Iron, and the engines, of cast iron.

\* The number of pumping engines reported this month is fifty. They have pumped 100,000 tons of coal, and raised 100,000 tons of water to 100 feet high by the consumption of a ton of coal.

THOMAS LEAN AND SONS.

**OCCURRENCE OF VANADIUM IN SLAGS FROM COPPER-SLATE.**—The bituminous marl-slate of geologists, a member of the magnesian limestone series, frequently contains copper pyrite, and ores of copper, in which state it is named "copper-slate;" this copper-slate is prepared and melted on account of the copper it contains in some districts in Germany, as Mansfeld, Sangerhausen in Thuringia, &c. The slags of the copper-slate of Mansfeld and Sangerhausen, according to M. C. Kersten, of Freiberg, afford a portion of the metal named "vanadium," thus intimating its presence as an ingredient in the copper-slate.

**CHEMICAL PHILOSOPHY.**—Mr. R. Hunt delivered a second lecture on chemical philosophy at the Polytechnic Hall, Falmouth, on the 8th inst. The subject of the lecture was, the more striking features connected with the manifestations of heat and light. After explaining and illustrating by experiments the peculiarities of flame under ordinary circumstances of combustion, the lecturer examined the peculiar characteristics of the safety lamp of Sir H. Davy, and then proceeded to show that in all cases combustion was the effect of chemical combination; this was illustrated by experiments, showing that combustion would not take place in the atmosphere and in oxygen gas, but also in chlorine, the vapour of iodine, sulphur, &c.

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